

REMARKS/ARGUMENTS

Claims Status

Claims 1-4, 6 and 8 are pending. Claims 1-4 are withdrawn pursuant to a previous Restriction Requirement. Claims 5, 7 and 9-13 were previously canceled without prejudice. Claim 6 is currently amended and finds support in the specification: page 18, line 27, to page 20, line 1. Claim 8 remains as previously presented. No new matter has been added.

§103(a) Rejections

Claims 6 and 8 remain rejected under 35 U.S.C. §103(a) as obvious in view of the combination of *Ida* (US 4,839,125) and *Nishi* (JP 06-278148). Applicants respectfully traverse this rejection.

The claimed invention is drawn toward a method of producing a plate polymer comprising feeding a polymerizable raw material containing methyl methacrylate into a belt type continuous plate manufacturing apparatus comprising specific components **oriented in a specific manner** such that specific formulas are satisfied (i.e., formulas (1) and (2)) and **such that certain detection positions can be confirmed accurately and easily** (i.e., “the laser ray is reflected at the gas-liquid interface between the polymerizable raw material and air such that the reflected laser ray orthogonally crosses the belt-running direction and is detected via the gaskets to confirm gasket reaching positions A₁ and A₂ of the polymerizable raw material”) (see claim 6 for specifics).

In light of the previous rejection over *Ida* and *Nishi*, Applicants argued in the response filed on July 6, 2009, that

“the positioning and directioning of [the laser emitter] *Nishi* can not be successfully applied to the claimed invention due to the claimed invention using “two endless belts configured such that their facing belt surfaces run toward the same direction ... and continuous gaskets running under condition of being sandwiched by belt surfaces at their both side edge portions” (see

claim 6). This is better understood upon review of Figure 4 of the current specification.

Figure 4 shows positions A1 and A2 wherein these positions are gasket reaching positions in which the polymerizable raw material first reaches the gaskets. The area near the positions A1 and A2 are surrounded by the lower endless belt 1', upper main pulley 2 and the gaskets 7. Therefore, the positioning of the emitter and detector as shown in *Nishi* can not be applied successfully to the claimed apparatus as shown in Figure 4.

In contrast to *Nishi*, in the claimed invention the laser beam emitter is provided on the side of the raw material feeding part and laser ray is emitted from the laser beam emitter along the belt running direction. Furthermore, the reflection light vertical to the belt running direction can be easily confirmed (visually) by an operator situated at the side surface of the apparatus. In addition, movement of the positions A1 and A2 can be monitored with improved precision. As *Nishi* does not deal with a two-belt system as claimed, the positioning and directioning of *Nishi* neither discloses nor suggests such easy visual confirmation or improved monitoring precision of the positions movement as obtained by the claimed invention. Accordingly, *Nishi* does not disclose or suggest the claimed invention." (emphasis added)

In response to these arguments, the Office asserted in the Office Action dated November 13, 2009, that "Nishi is relied upon to show that laser detection is known in the continuous belt molding art. Correct placement of the emitter and detector would be determined on a case specific basis. Further, it has been held that rearrangement of parts is within routine skill of one in the art (MPEP 2144.04)." (Office Action, page 5).

In rebuttal to the Office's assertions of November 13th, Applicants pointed out the full text of section 2144.04 of the MPEP as follows:

"C. Rearrangement of Parts

In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (Claims to a hydraulic power press which read on the prior art except with regard to the position of the starting switch were held unpatentable because shifting the position of the starting switch would not have modified the operation of the device.); *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (the particular placement of a contact in a conductivity measuring device was held to be an obvious matter of design choice). However, "The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device." *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984)." (emphasis added)

As such Applicants argued, in the response filed February 16, 2010, that

“the Office’s blanket assertion that it is within routine skill of one in the art to rearrange parts is not applicable to the instant invention because unlike *In re Japikse*, shifting of the position of the parts (i.e., the emitter) would modify the operation of the device, and unlike *In re Kuhle*, shifting of the position of the parts (i.e., the emitter) is not merely a design choice but instead is a choice necessitated by the need for a functioning device. Furthermore and in line with *Ex parte Chicago Rawhide Mfg. Co.*, Applicants submit that the mere fact that a person could rearrange the parts of the cited art in order to meet the claimed limitations, does not, by itself support a finding of obviousness. In addition, it is noted that neither *Nishi* nor *Ida* “provide a motivation or reason for the worker in the art, without the benefit of appellant’s specification, to make the necessary changes in the reference device.” Accordingly, the “rearrangement of parts” as stated by the Office is not obvious when one considers the true application of MPEP 2144.04VIC. As such, the Office has failed to meet its burden with respect to putting forth a *prima facie* case of obviousness.”

In the Advisory Action dated March 9, 2010, the Office responds to these arguments by stating that

“*Ida* teaches a two belt-system, for forming plate polymers. When applying the laser monitoring system of *Nishi*, one in the art would be motivated to locate the [light] emitting device on the side of the raw material because the belts above and below the raw material prevent the function of the laser monitoring device, namely monitoring the dimensions of the plate. Thus, a motivation to make the changes in the reference exists.”

In light of both the remarks in the Final Office Action and the Advisory Action, Applicants submit that it is clear that the Office has either improperly ignored Applicants’ previous arguments (see MPEP 707.07(f)) or the Office has failed to understand Applicants’ previous arguments based on the principle position that **it is not obviousness to take a device from a one-belt system (i.e., *Nishi*) and place it into a two-belt system (i.e., *Ida*) and expect satisfactory or improved functioning of the device when two-belt systems are known to have their own unique challenges that are not present in one-belt systems** (e.g., positioning issues, light reflection issues, visibility/inspection issues, etc.).

Accordingly, Applicants submit that the Office’s dismissal of Applicants’ previous arguments (i.e., that “neither *Nishi* nor *Ida* ‘provide a motivation or reason for the worker in

the art, **without the benefit of [Applicants'] specification**, to make the necessary changes in the reference device”), was erroneous due to the Office’s failure to recognize the non-obvious nature of *taking a device from a one-belt system and placing it into a two-belt system* and obtaining accurate and easy **detection and confirmation of positions A₁ and A₂ of the system** despite the fact that two-belt systems are known to have their own unique challenges that are *not* present in one-belt systems (e.g., positioning issues, light reflection issues, visibility/inspection issues, etc.).

Accordingly, Applicants submit that (a) the “rearrangement of parts” as alleged by the Office has not been performed “without the benefit of Applicants’ specification” as is required by MPEP 2144.04VIC, and (b) the Office has consequently failed to meet its burden with respect to putting forth a *prima facie* case of obviousness.

However, notwithstanding the above, Applicants again submit that even if the Office had put forth a *prima facie* case of obviousness, the claimed invention remains non-obvious in light of the cited references for at least the following reasons. Accordingly, in light of the foregoing, Applicants respectfully request that the Office reconsider the following remarks relating to the non-obviousness of the claimed invention based on the above-noted principle that it is not obviousness to take a device *from a one-belt system* (i.e., *Nishi*) and *place it into a two-belt system* (i.e., *Ida*) and expect satisfactory or improved functioning of the device when two-belt systems are known to have their own unique challenges that are not present in one-belt systems (e.g., positioning issues, light reflection issues, visibility/inspection issues, etc.).

With respect to the Office’s characterization of the *Nishi* reference as being related to “the continuous belt molding art,” Applicants note that the better characterization of the *Nishi* reference is that it relates to the one-belt, continuous-belt molding art. In contrast, the

claimed invention relates to a two-belt system which has its own unique challenges that are not present in a one-belt system. For example, and as touched upon in the previously filed remarks, a one-belt system like that of *Nishi* provides the laser beam device above and near the inspection object and such positioning is possible because there is no upper conveyor belt posing a problem.

More specifically, *Nishi* uses a laser beam device for measuring the forming height of the foam being produced (see [0020]) and because a laser beam has a rectilinear advancing property, the direction of the reflection light depends on the shape of the inspection object. As shown in Figure 11 of *Nishi*, a lower conveyor belt (1) is used but an upper conveyor belt is not. Consequently, the positioning of the laser beam device above and near the inspection object is possible and the direction of the reflection light can be easily predicted and, as a result, the emitter and detector are placed near each other.

Such ease of placement of the laser beam device as described above with respect to *Nishi*'s one-belt system **does not exist in Applicants' two-belt system**. The apparatus of the claimed invention comprises two endless belts and continuous gaskets, the area near the positions A_1 and A_2 is surrounded by the belts and gaskets, and the space between the upper and lower belts is narrow. **Consequently, the positions A_1 and A_2 are substantially invisible, thus making it difficult to set a laser beam device near the positions A_1 and A_2 .**

In light of such difficulties of placing the laser beam device in the claimed two-belt system, Applicants have discovered that placement of the laser beam emitter on the side of the raw material feeding part is successful for at least the following reasons, all of which are neither disclosed or even suggested by the cited references. The laser ray from the laser beam emitter along the belt running direction reflects at the gas-liquid interface between the raw material and the air. Consequently, the reflection light orthogonally crosses the belt running direction and is detected via the gasket to confirm the positions A_1 and A_2 .

Accordingly, based on the knowledge of the positions A_1 and A_2 , an operator can immediately grasp an irregular feeding of the raw material with extremely good precision.

Niether *Nishi* nor *Ida* disclose or suggest such a placement for the laser beam device, such a determination of the direction of the reflection light, and/or a way in which to allow an operator to rectify a problem with such good precision (i.e., irregular feeding).

Furthermore, even if one skilled in the art were to arbitrarily combine the disclosure of *Nishi* (one-belt system) with the disclosure of *Ida* (two-belt system), he/she would still not readily attain the claimed invention because he/she would still find it difficult to confirm the positions A_1 and A_2 because of their virtually invisible nature and the lack of accurate prediction techniques for the direction of the reflection light in such a system.

Lastly, Applicants submit that *Nishi* and *Ida* are, in reality, non-combinable for at least the following reasons. *Nishi* uses a laser beam device for measuring the forming height of a flexible polyurethane foam. *Ida* uses upper and lower belts wherein the thickness of the plate is determined by the distance between the belts. *Ida* also uses gaskets at both side edges of the belts wherein the distance between the gaskets determines the width of the plate. Thus, in the process of *Ida* it is unnecessary to measure the thickness/height and width of the plate during the polymerization process. Accordingly, one skilled in the art would not consider applying the measurement technique of *Nishi* to the process of *Ida* because such measurements are considered unnecessary in *Ida*.

Applicants note that the Office has addressed the last argument mentioned above (i.e., the non-combinability of *Nishi* and *Ida*) in the Advisory Action dated March 9, 2010. In the Advisory Action the Office asserts that “despite the existence of gaskets, molding processes require dimensional quality control to ensure the products have the proper size, and a laser provides accurate dimensional measurement to ensure the desired production dimensions.”

However, Applicants submit that the Office has missed the point; namely that *Ida* already provides width and height determinations of the plate-product via the belts and gaskets, therefore one skilled in the art would lack the motivation to apply the measurement technique of *Nishi* to the process of *Ida* because such measurements are already being determined by another mechanism in *Ida*. Accordingly, the Office's assertion that "a laser provides accurate dimensional measurement" is of no consequence to Applicants' arguments.

In view of the foregoing, as well as the remarks previously filed, Applicants again submit that the combination of *Ida* and *Nishi* does not render obvious the claimed invention. As such, Applicants request withdrawal of this rejection.

Conclusion

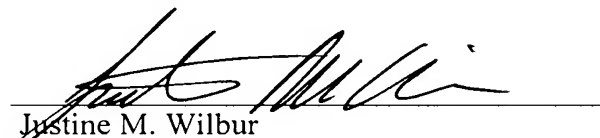
Applicants submit that all now-pending claims are in condition for allowance. Applicants respectfully request the withdrawal of the rejections and restriction requirement, and passage of this case to issue.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)



Justine M. Wilbur
Attorney of Record
Registration No. 59,678